

Fig. 1

Process for generating a reference relationship
information from a digital document to geometry data

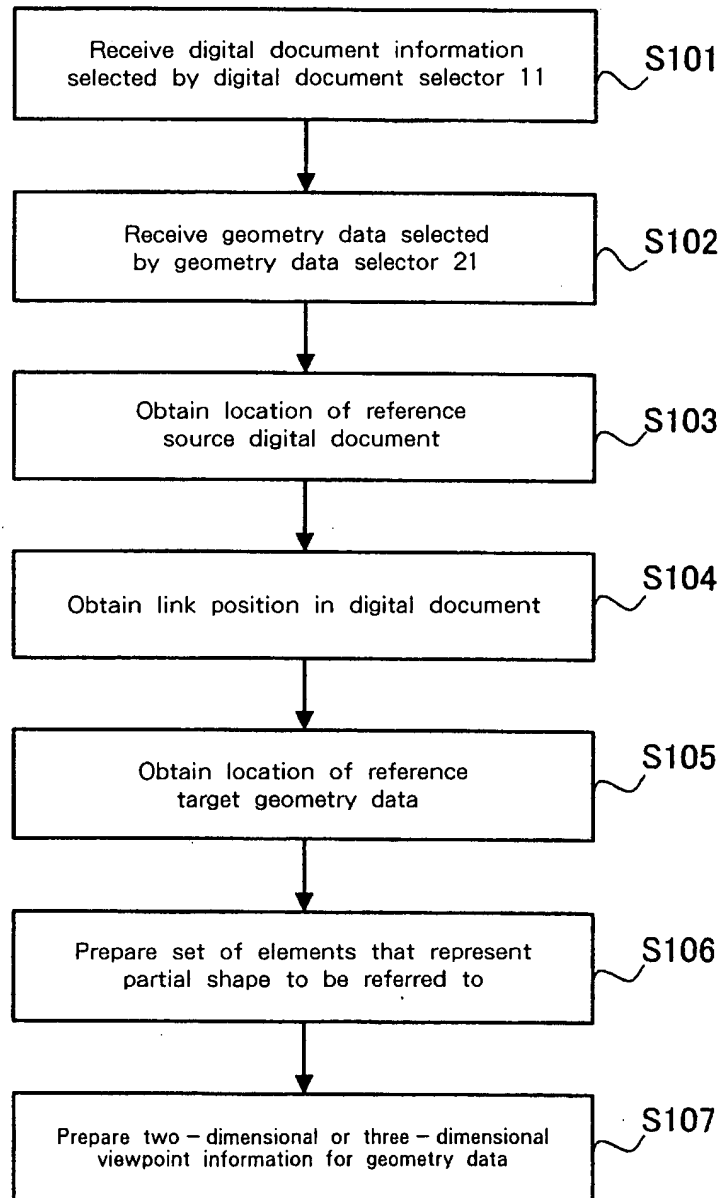


Fig. 2

Process for generating a reference relationship
information from geometry data to a digital document

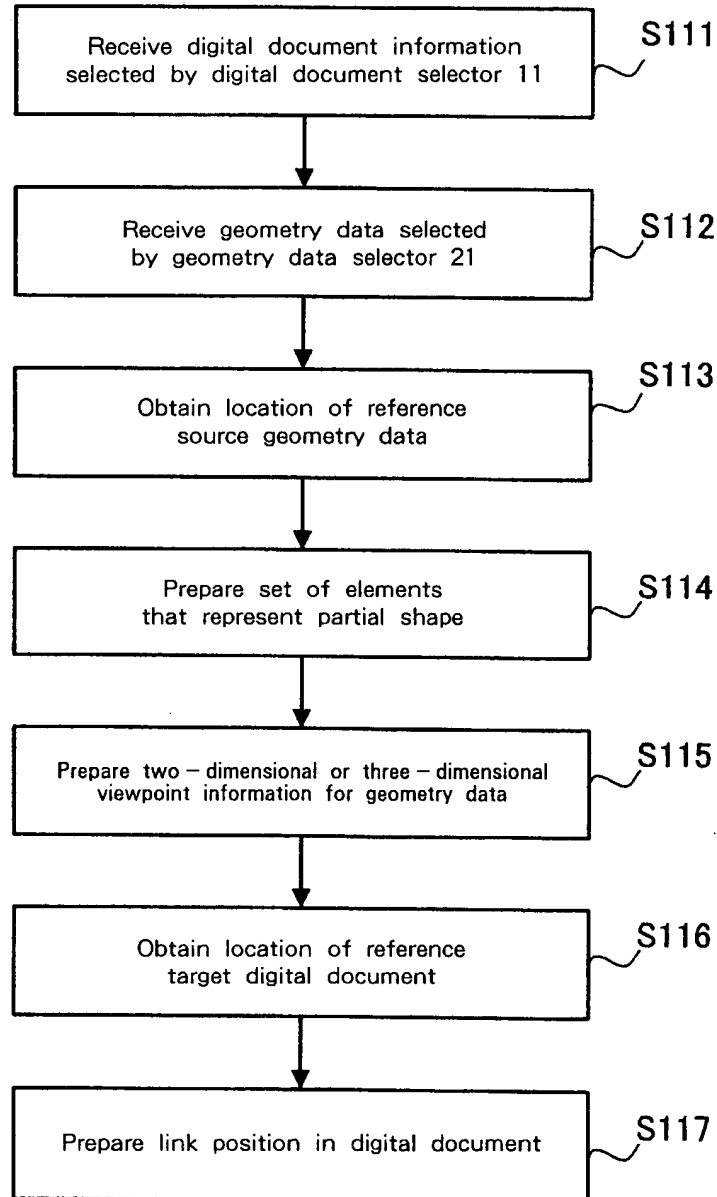
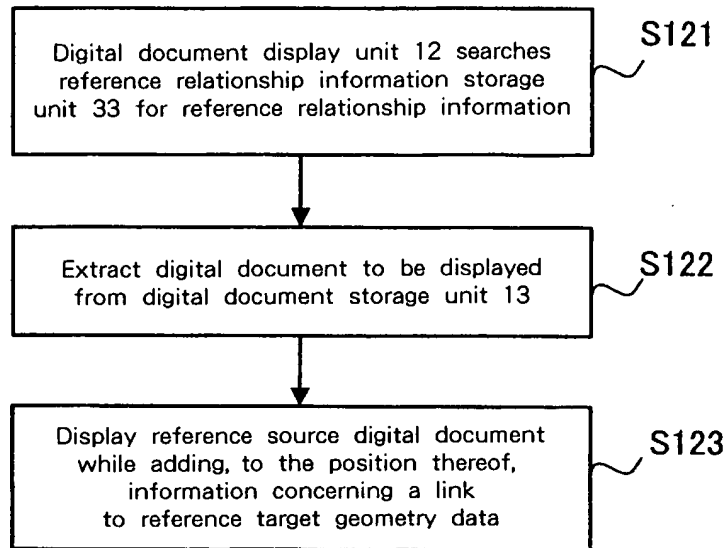
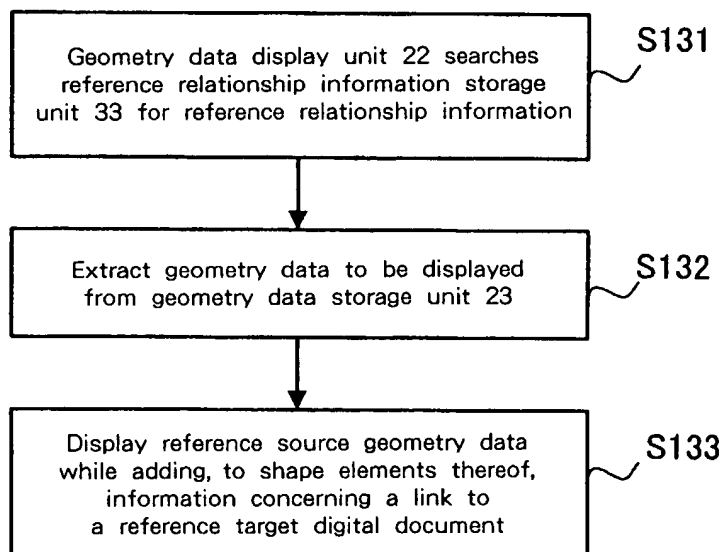


Fig. 3

(a) Process for displaying digital document



(b) Process for displaying geometry data



(a) Process for displaying geometry data
that digital document refers to

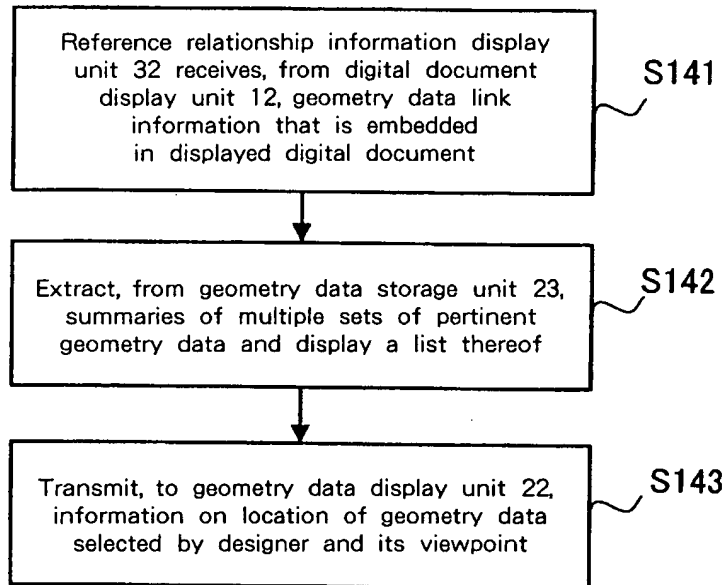


Fig. 5A

(b) Process for displaying digital document
that geometry data refer to

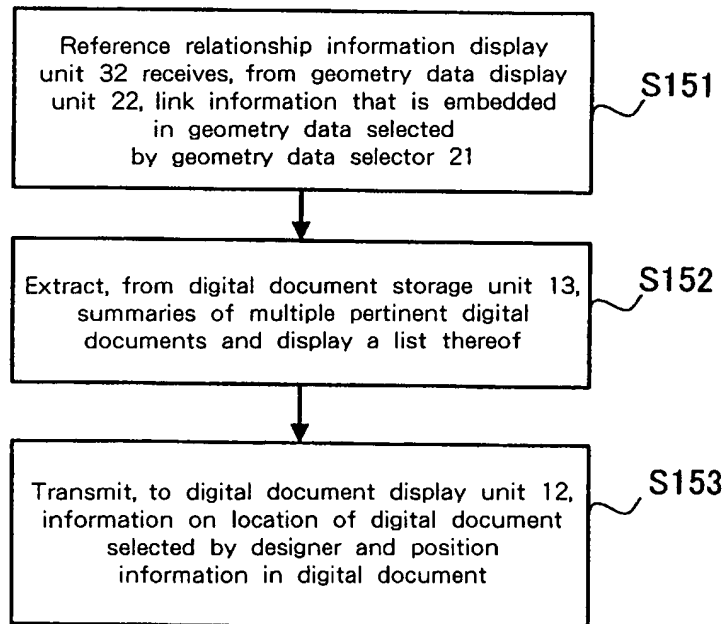


Fig. 5B

(a) Process for displaying geometry
data that refer to a digital document

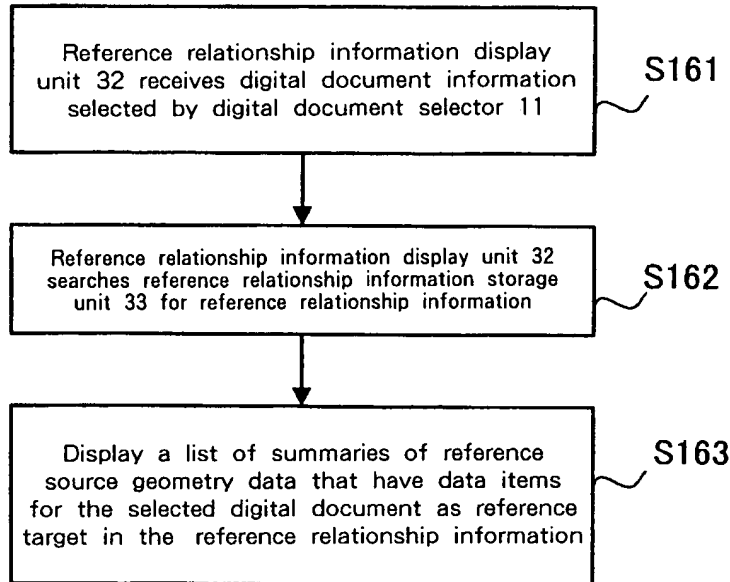


Fig. 6A

(b) Process for displaying a digital document
that refers to geometry data

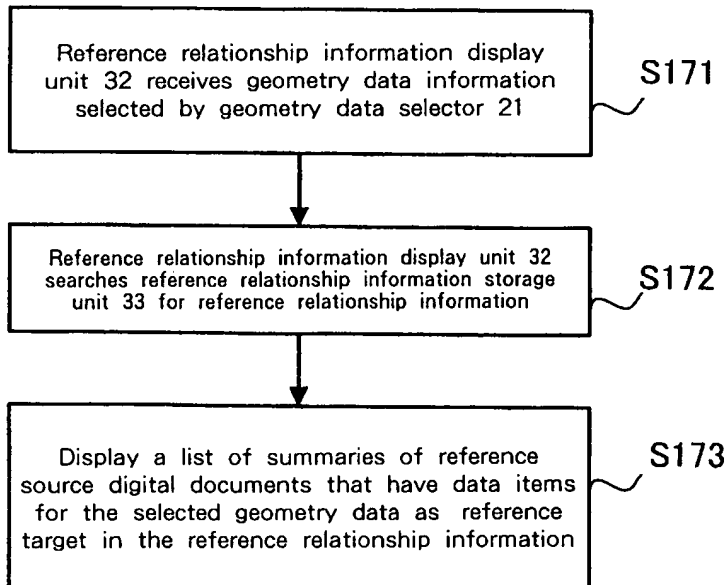


Fig. 6B

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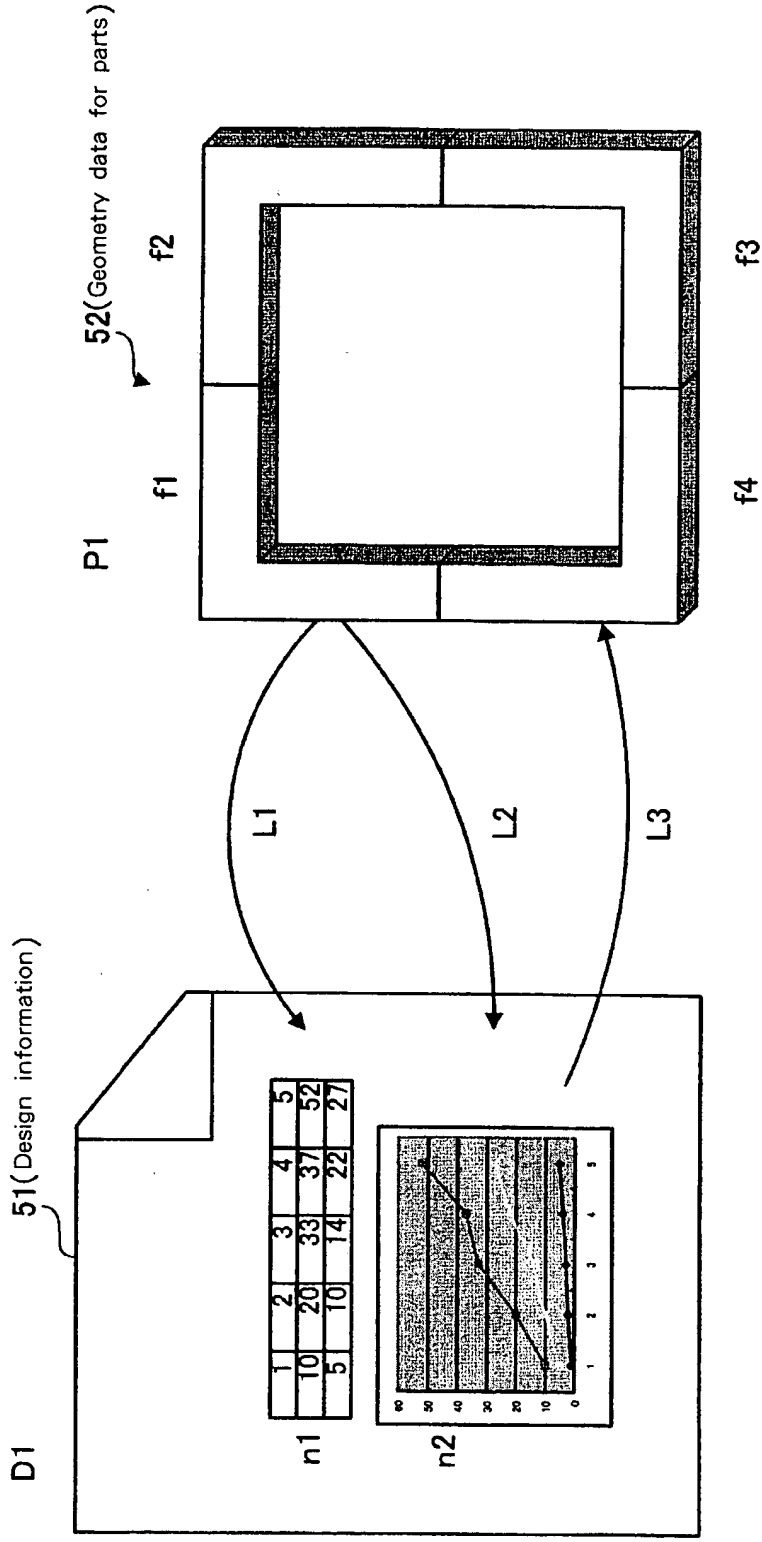


Fig. 7

(a) Reference relationship information in geometry data that refers to a digital document

Reference source geometry data	Reference source geometrical element	Reference source viewpoint information	Reference target digital document	Reference target position	Creation date	Creator	Reference frequency
P1	{f1}	((100,100,100),(0,0,0),100)	D1	n1	99/08/20	A. O.	1
P1	{f1}	((100,100,100),(0,0,0),100)	D1	n2	99/08/21	Y. O.	1

Fig. 8A

(b) Reference relationship information in a digital document that refers to geometry data

Reference source digital document	Reference source position	Reference target geometry data	Reference target geometrical element	Reference target viewpoint information	Creation date	Creator	Reference frequency
D1	n2	P1	{f4}	((100,100,100),(0,0,0),100)	99/08/20	A. O.	1

Fig. 8B

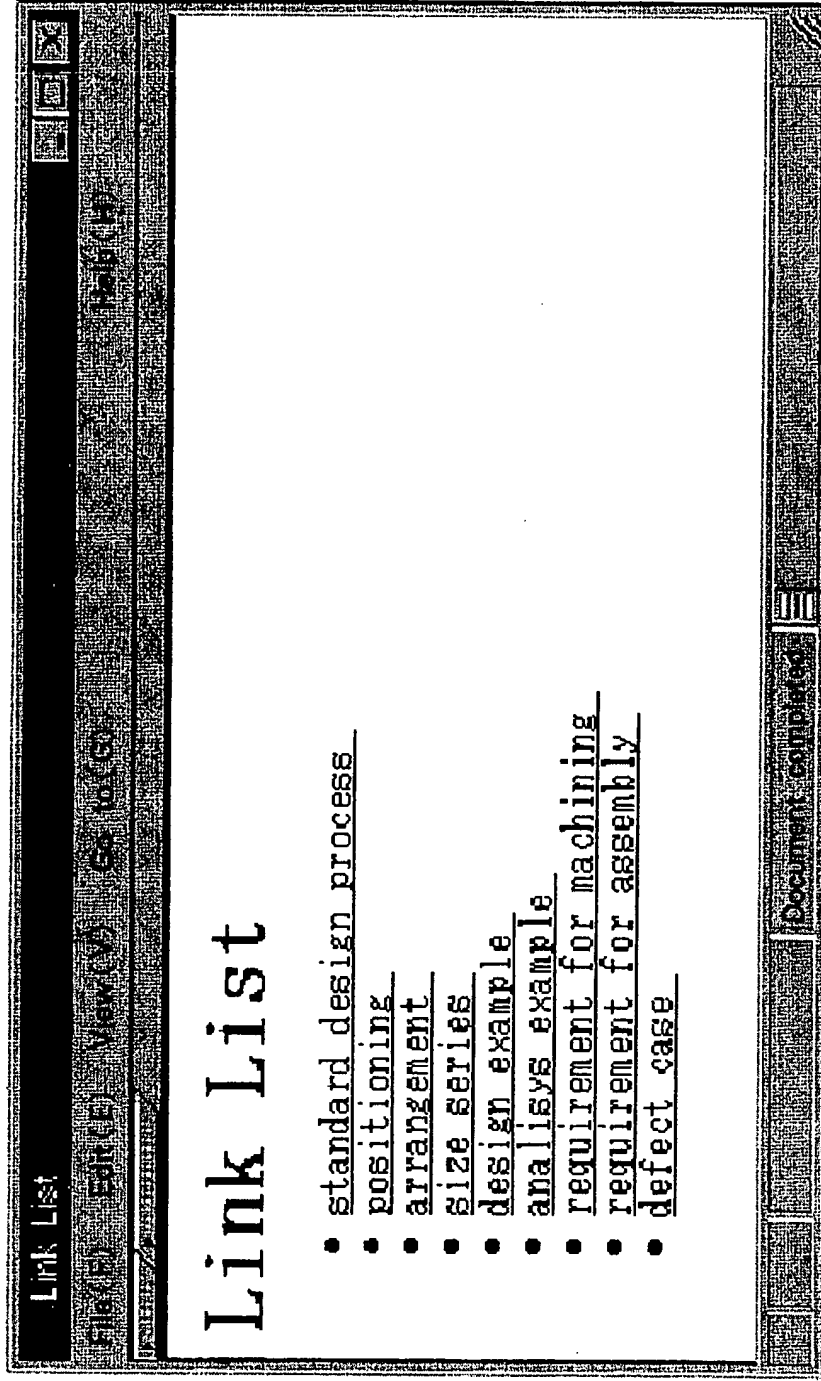


Fig. 9

Gate

Gate

The size and shape of a gate

The size of a gate is determined depending on the material that is used or the size of a model, but like runners, it tends to be determined empirically. Generally speaking, a gate should be as small as possible because of the hardening that is promoted due to a rise in temperature that is caused by friction resistance during injection, and because of the finishing process performed for the gate. However, if the gate is too small, extra pressure is required, and a filling shortage may occur. Thus, as well as the runner, a gate when processed must have a comparatively small size but may be expanded to an appropriate size. Generally, a depth of 0.5 to 1 is most frequently employed for a standard gate. The width of the gate should be twice or more the depth, and the length of the gate (called a land) should be approximately 1 to 2. In order to prevent a model from being chipped off while a gate is being cut out, a gate need only be formed on the model side, and may be cut at the thin portion thereof that is furthest from the model.

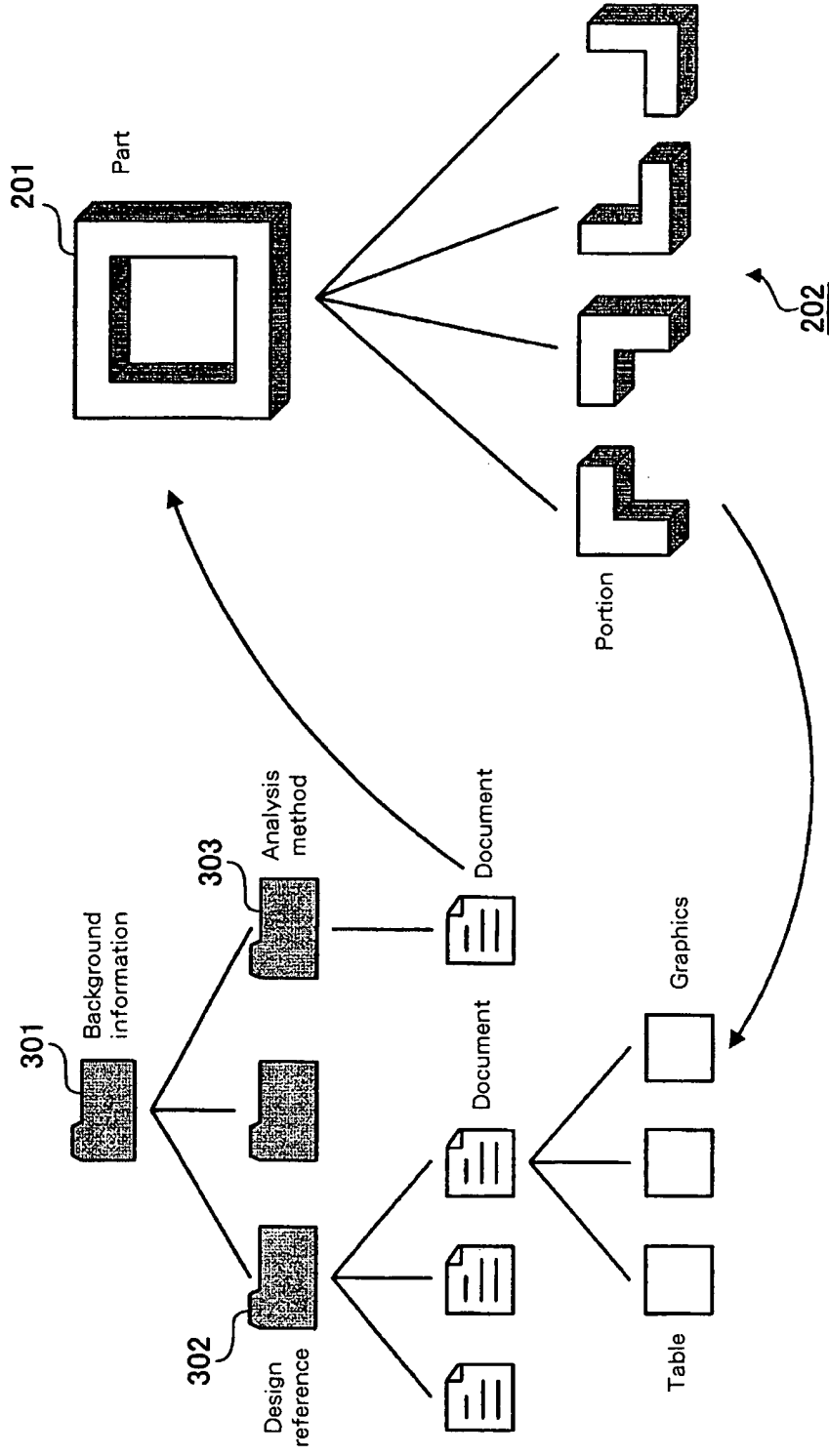


Fig. 11